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A PECULIAR NEW SPECIES OF THE GENUS *ULIDIA* (DIPTERA, ULIDIIDAE) FROM MIDDLE ASIA

E. P. Kameneva

I. I. Schmalhausen Institute of Zoology NAS of Ukraine
Bogdan Chmielnicki str. 15,Kyiv 01601 Ukraine
E-mail: seioptera@yandex.ru

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A Peculiar New Species of the Genus *Ulidia* (Diptera, Ulidiidae) from Middle Asia. Kameneva E. P. — *Ulidia metope* Kameneva, sp. n. from Kyrgyzstan and Uzbekistan is described. It differs from all known species of the genus *Ulidia* Meigen by sexually dimorphic, broadly silvery white microtrichose sides of frons and parafacials resembling that in the flies of the genus *Metopia* Meigen (Sarcophagidae).

Key words: Diptera, Ulidiidae, *Ulidia*, Middle Asia, new species.

Необычный новый вид рода *Ulidia* (Diptera, Ulidiidae) из Средней Азии. Каменева Е. П. — Описана *Ulidia metope* Kameneva, sp. n. из Киргизстана и Узбекистана. Новый вид отличается от всех известных представителей рода *Ulidia* Meigen широким серебристым опылением на сторонах лба, сходным с таковым у мух из рода *Metopia* Meigen (Sarcophagidae).

Ключевые слова: Diptera, Ulidiidae, *Ulidia*, Средняя Азия, новый вид.

Introduction

The picture-winged fly tribe Ulidiini includes about 90 species of the genera *Physiphora* Fallén, 1810 (most diverse in the Afrotropical Region), *Timia* Wiedemann, 1824 (occurring predominantly in the Middle East and Central Asia) and *Ulidia* Meigen, 1826. The latter genus includes 18 described species, distributed mainly in semi-arid areas from the Mediterranean in the West to China (Inner Mongolia and Tibet) in the East (Kameneva, 2008; Chen, Kameneva, 2009). Species of *Ulidia* are common in late spring and early summer in grasslands, often feeding on dung and flowers and gathering on stones and bare soil, as well as on a sweaty cloth left lying on grass, possibly using such places for pre-connubial associations; they somewhat resemble certain small muscid and flesh flies in their behaviour (Kameneva, personal observations).

European *Ulidia* species were recently revised and keyed (Kameneva, 2008), but several undescribed species of *Ulidia* from the Middle East are recognized in collections (Kameneva, 2002), most of which are to be the subject of a forthcoming revision of Asian *Ulidia* (Kameneva, in prep.). A very peculiar species collected in Middle Asia by Miroslav Barták in 1989 and by the author in 1998, however, deserves special attention. This aberrant species only partly fits the polythetic diagnoses currently used to separate closely related *Ulidia* and *Timia* (see Chen, Kameneva, 2009) and shows that there is a need for detailed revision of phylogenetic relationships among species inside and between these genera based on detailed morphological and molecular studies.

The new species shares a shining, non-microtrichose thorax and wide parafacials with other species of *Ulidia*, but differs from most of them (except *U. facialis* Hendel, 1931 and *U. kandybinae* Zaitzev, 1982) by its smooth frons without pits or dots at the bases of setulae, and I therefore provisionally place it here in the genus *Ulidia* along with those 2 species.

Material and methods

The specimens listed in this paper are deposited in the I. I. Schmalhausen Institute of Zoology, Kyiv, Ukraine (SIZK); most paratypes from the private collection of M. Barták are to be deposited in the collection of National Museum Prague, Kunratice, Czech Republic (NMP).

Morphological terminology generally follows J. F. McAlpine (1981). Classification of the family is accepted from Kameneva, Korneyev (2006).

Series of photos were taken directly from a dissecting or compound microscope with Nikon P50 digital camera and then composed with the use of CombineZM software (Hadley, 2007).

Subfamily ULIDIINAE

Ulidia Meigen, 1826

Ulidia metope Kameneva, sp. n. (fig. 1, 2)

Material examined. **Type.** Holotype ♂, **Kyrgyzstan**: Chon-Aryk prope Bishkek, 1100 m, 42°46’N 74°34’E, 20.06.1998 (Kameneva, Korneyev) (SIZK). Paratypes. 1 ♀ label same as in holotype (SIZK); 27 ♂ dissected), 20 ♀ dissected): **Uzbekistan:** Amankutan [Pass], alpine meadow, 39.17°N 66.54°E, 1600 m. 23.05.1989 (Bartak), 1 ♀: **Uzbekistan:** Karamazar, alpine meadow, 41.30°N 69.49°E, 800 m, 18.05.1989 (Bartak) (NMP; SIZK).

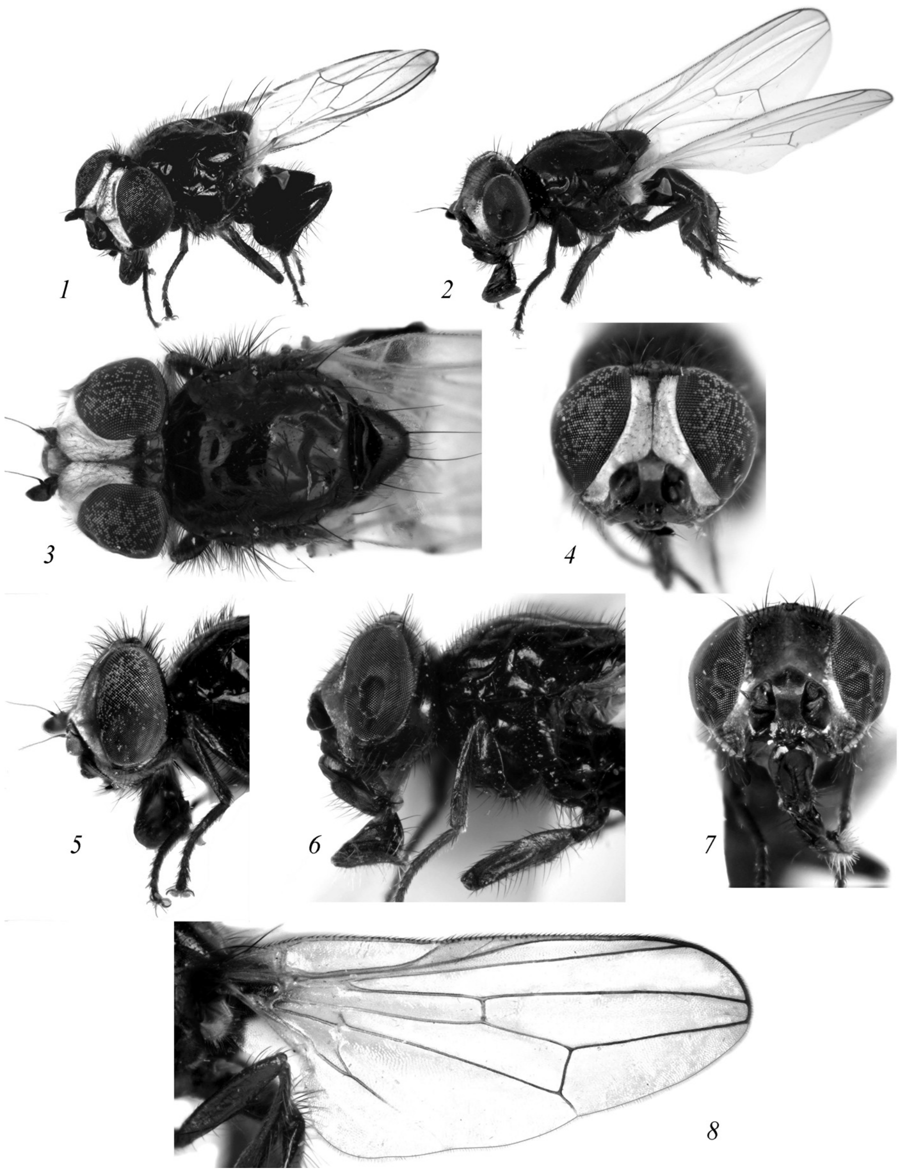


Fig. 1. *Ulidia metope* sp. n., holotype ♂ (*1, 3–5*) and paratype ♀ (*2, 6–8*): *1*, *2* — habitus, latero-dorsal view, *3* — head and thorax, dorsal view; *4*, *7* — head, anterior view; *5*, *6* — head and part of thorax, lateral view; *8* — wing.

Рис. 1. *Ulidia metope* sp. n., голотип ♂ (*1, 3–5*) и паратип ♀ (*2, 6–8*): *1*, *2* — общий вид сбоку и сверху, *3* — голова и грудь, сверху; *4*, *7* — голова, вид спереди; *5*, *6* — голова и часть груди, сбоку; *8* — крыло.

Diagnosis. Medium-sized *Ulidia* with smooth frontal vitta, entirely silvery microtrichose parafacial and completely shining black, long black setulose thorax and abdomen, dark brown legs, and hyaline wings, differing from all other known species of *Ulidia* by combination of these characters, and also by acrostichal seta present, pterostigma yellow, veins R_{4+5} and M only slightly convergent, mid- and hindtarsi brown black, and by male genitalia (surstyli with rounded medio-basal lobe and medially curved ventral lobes; phallus glans moderately small, with small, weakly sclerotized lobes, striate and wrinkled belt, but without spurs) and female terminalia structures (cercal unit elongate, with 6 long setae; spermathecae round with smoothed cellular surface).

Description. Head (fig. 1, *3–7*) mostly black, with yellow or brown frons. Frons smooth, without pits, subshining yellow, except shining black vertical plates and ocellar triangle; in male (fig. 1, *3–4*) narrow (0.4–0.5 times as wide as long in posterior half, and widened anteriorly, 0.8 times as wide as long at lunule level), with wide, densely silver white microtrichose orbits and very narrow, almost linear, deepened frontal vitta; in female (fig. 1, *6–7*) almost square, somewhat evenly deepened to middle, with numerous long and thin black setulae, with vertical plates shining, and orbit microtrichose at parafacial border. Face black or brown, lunule microtrichose, with 4–6 black setulae, antennal grooves deep, oval. Parafacialium brown to black, smooth, as wide as flagellomere 1. Lateral surface of facial groove, facialium and parafacialium silver white microtrichose; vibrissal angle with 6–7 fine long setulae. Gena (fig. 1, *5–6*) high, in male 0.15–0.2, in female 0.25 times as high as eye, smooth, shining black, long and thin setulose on whole surface. Eye vertical oval, 1.6–1.8 times as high as long, with half of ommatidia lying on anterior surface. Setae: 1 orbital, 1 ocellar, 1 postocellar, 1–1.2 times as long as surrounding setulae; 1 long lateral (vte), and 1 long medial vertical seta (vti). Antenna, including arista, matt dark brown to black, short grey microtrichose. Palpus black, moderately wide, unmodified, parallel-sided, with long black setae. Proboscis with 3–4 pairs of black setae on prementum, and whitish setulae on labellum.

Thorax (fig. 1, *3, 6*) shining black, with black setae and setulae, without microtrichose areas, except for erect, short and sparse greyish microtrichia on katatergite. Mesonotum (fig. 1, *3*) with strong bluish sheen. Postpronotal lobe, mesonotal scutum, scutellum, proepisternum, anepisternum and katepisternum, with numerous fine, long (0.5–0.7 times as long as setae) black setulae; 1 postpronotal, 1 supra-alar, 1 intraalar, 1 postalar, 1 dorsocentral, 1 acrostichal, 2 pairs of scutellar, 6 anepisternal and 1 katepisternal setae present.

Legs entirely blackish brown, including mid- and hindtarsi; long black setulose and setose; posterior femur unmodified in both sexes, as thick as midfemur.

Wing (fig. 1, *8*) hyaline, except pterostigma yellowish; veins yellow in basal three fifths of its length, brown to black in apical two fifths; posterior portion of vein CuA_2 (from break to apex of posteroapical lobe of cup cell) 1.3 times as long as its anterior portion (anterior of its break). Wing length 3.2–3.5 mm. Calypter moderately enlarged, with long white fringe. Halter yellow.

Abdomen shining black, tergites and sternites smooth, with bluish sheen, long setulose. Tergite and sternite 6 of female setulose, short, narrowed and hidden underneath tergite 5 (fig. 2, *5*).

Male genitalia (fig. 2, *1–4*): surstylus with rounded, short posteromedial lobe and mesoventrally curved antero-ventral lobe; no prensisetae; cerci shallowly separated (fig. 2, *1*). Phallus: one membranous caecum basally of glans. Glans moderately small, as wide as basal part of distiphallus (stipe), without larger sclerotized projections or lobes, except apical volute-like, wrinkled, poorly sclerotized part as shown on fig. 2, *4*.

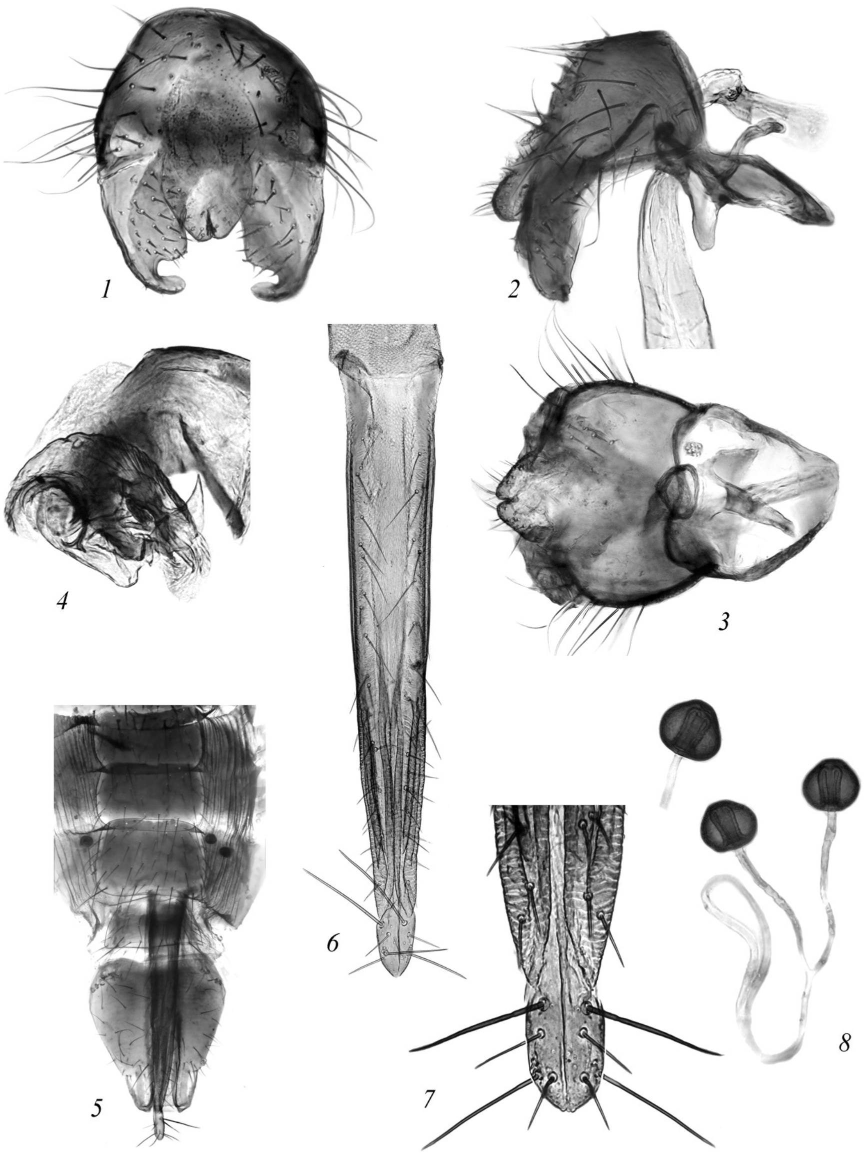


Fig. 2. *Ulidia metope* sp. n., ♂ (*1–4*) and ♀ (*5–8*) genitalia: *1* — epandrium, posterior view, *2–3*: epandrium and hypandrium: *2* — lateral right; *3* — ventral view; *4* — glans of phallus; *5* — abdominal sternites 3–6, tergosternum 7 and aculeus, ventral view; 6 — aculeus, compressed on slide; *7* — aculeus apex, uncompressed, ventral view; *8* — spermathecae.
Рис. 2. *Ulidia metope* sp. n., гениталии ♂ (*1–4*) и ♀ (*5–8*): *1* — эпандрий, вид сзади, *2–3*: эпандрий и гипандрий: *2* — справа; *3* — снизу; *4* — гланс фаллюса; *5* — 3–6-й брюшные стерниты, 7-й тергостернит и лезвие яйцеклада, вид снизу; 6 — акулеус, сплющенный на препарате; *7* — вершина акулеуса, несплющенная, снизу; *8* — сперматеки.

Female terminalia (fig. 2, *5–8*): tergosternum 7 dark brown or black, black setulose, aculeus moderately wide, 7.5–9 times as long as wide at its middle, with elongate oval cercal unit 1.6 times as long as wide (fig. 2, *6–7*) bearing longest setulae 1.5–1.8 times as long as cercal unit wide; 3 spherical spermathecae with smoothed cellular surface and inverted neck (fig. 2, *8*).

Etymology. The species name is a noun in apposition; in Greek mythology, Metope (Greek: Μετώπη) is one of river nymphs; the name also indirectly reflects

superficial similarity of wide silvery microtrichose frons in males of *U. metope* sp. n. with that in flesh flies of the genus *Metopia* Meigen, 1803.

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